

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	§	
RAJAGOPALAN et al.	§	Confirmation No.: 3734
	§	
Serial No.: 10/731,063	§	Group Art Unit: 2182
	§	
Filed: December 9, 2003	§	Examiner: Jasjit S. Vidwan
	§	
For: UPLOADING TCP FRAME	§	
DATA TO USER	§	
BUFFERS AND BUFFERS	§	
IN SYSTEM MEMORY	§	

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL CONFERENCE BRIEF

In conjunction with the Pre-Appeal Brief Request for Review filed herewith, Applicant requests a Panel review of the Final Rejection in this matter (see the Final Office Action dated September 4, 2008). Although the remarks herein are focused on a specific factual issue raised by the rejection, nothing in this paper is meant to limit the scope of any arguments, either factual or legal, that Applicant may later present in a full appeal brief.

QUESTIONS FOR REVIEW

The Examiner has rejected pending claims 1-6, 8-10, 21, 22, and 24-30. Claims 1-3, 10, and 29-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Boucher (6,334,153) in view of Elzur (6,629,125). Claims 4-6, 8-9, 21-22, and 24-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Boucher and Elzur in further view of Adams (6,775,693). The Examiner's rejections based on the combination of Boucher and Elzur and Boucher, Elzur and Adams are respectfully traversed. Specifically, Applicants disagree with the Examiner's position that Elzur teaches or suggests that frame data is uploaded to a legacy buffer in a portion of the system memory that is not allocated to the application program if a user buffer is not available.

ARGUMENTS SUBMITTED

Independent claims 1 and 10 each recite the limitations that frame data is uploaded to a user buffer in the system memory allocated to the application program, if the user buffer is available, and to a legacy buffer in a portion of the system memory that is not allocated to the application program if the user buffer is not available. As the claim language makes clear, user buffers and legacy buffers are different types of buffers that are stored in different portions of the system memory. Again, the distinction between legacy and user buffers is clearly articulated in claims 1 and 10. Further, claims 1 and 10 were amended in response to the Office Action dated May 17, 2007 to specifically distinguish these claims over Boucher and Elzur by clarifying the difference between legacy buffers and user buffers and adding the limitation of uploading to a legacy buffer when a user buffer is unavailable.

Boucher does not teach or suggest the limitations recited in independent claims 1 and 10. In particular, Boucher does not disclose redirecting the data to a legacy buffer when the user buffer is unavailable (or full). Instead, the system described in Boucher queues packets not eligible for fast-path processing until a user buffer is available (see Boucher at col. 12, lines 53-57). Therefore, the Examiner relies on Elzur for teaching the imitations of redirecting the data to a legacy buffer when the user buffer is not available. However, a careful review of Elzur shows that this reference also fails to teach or suggest these limitations.

More specifically, Elzur discloses a system for uploading frame data to user buffers that are allocated to application programs. The Examiner equates the claimed user buffer with memory buffer 304 of the reference and the claimed legacy buffer with memory region 308 of the reference. Figure 7 illustrates “a memory buffer 304 that is associated with the application” (see Elzur at column 5, lines 2-5). However, as described in column 9, lines 44-45 and shown in Figure 7 of the reference, memory region 308 is a region within a buffer 304, which is not within a portion of system memory not allocated to the application program, as claimed. In fact, no part of region 308 lies outside of buffer 304. Clearly, region 308 is within buffer 304 and is therefore within memory associated with the application. Memory region 308 cannot be equivalent to the legacy buffer recited in claims 1 and 10 since the claimed legacy buffer

must be within a portion of the system memory that is not allocated to the application program. Thus, like Boucher, Elzur also fails to teach or suggest uploading packet data to a legacy buffer when a user buffer is not available, as recited in claims 1 and 10.

Applicants' argument is completely supported by the way the Elzur system is configured to operate. As shown in Figure 11 of Elzur, when a packet is received out of sequence, a region 308 is reserved (see block 260 and Figure 11 and col. 9, lines 44-47) to store any missing packets, where the boundaries of region 308 are determined based on the packet sequence numbers (see Elzur at col. 9, lines 52-55). The disclosed technique results in the packets in buffer 304 being stored in sequential order. Importantly, transferring packets from region 308 to other locations in buffer 304 becomes unnecessary. Therefore, the data always remains within buffer 304, which, unlike the claimed approach, is within a portion of the system memory allocated to the application program.

In the Advisory Action, the Examiner states, "[w]hen a frame is received either as incomplete or out of sequence, Elzur's system stores the data in 308 upon which it waits for receiving the remaining data prior to transferring frames from 308 region to the application portion of the buffer." This interpretation is not consistent with portions of reference that are specific to region 308. As previously explained, when a packet is received out of sequence, region 308 is reserved within buffer 304 to store the missing packet. Elzur provides a detailed example (see col. 9, lines 35-55) to illustrate the use of region 308, which conflicts with the Examiner's interpretation of the reference. According to the example, when a packet with sequence number 267 is received before the packet with sequence number 266, region 308 is reserved to store the packet with sequence number 266. In block 266 of Figure 11, the data in the packet with sequence number 267 is copied from the PCI interface 130 (uploaded) into buffer 304 by the zero copy parser 110. Nowhere in this specific example or elsewhere does Elzur teach or suggest transferring frames from region 308 to buffer 304, as stated by the Examiner, or to any other part of the system memory.

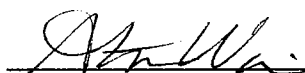
Most importantly, a thorough review reveals that Elzur, like Boucher, is completely silent regarding transferring data when a buffer 304 is not available. Therefore, Elzur fails to cure the deficiencies of Boucher set forth above.

The Adams reference teaches transferring data between application buffers over a network. Adams is silent regarding two types of buffers in system memory that are configured to receive data. Adams also fails to teach or suggest the limitations explicitly recited in claims 1 and 10, of uploading frame data to a user buffer in the system memory allocated to the application program, if the user buffer is available, and to a legacy buffer in a portion of the system memory that is not allocated to the application program if the user buffer is not available. Thus, Adams fails to cure the deficiencies of Boucher and Elzur relative to claims 1 and 10. Consequently, the only teaching or suggestion provided by any of the cited references, regarding the uploading of frame data when a user buffer is not available, is provided by Boucher. As previously explained, Boucher teaches queuing packets not eligible for fast-path processing until a user buffer is available. Therefore, it would not have been obvious to one of ordinary skill in the art at the time of the invention to implement the uploading of frame data taught by Boucher to upload the frame data to a legacy buffer when a user buffer is not available, as explicitly recited in claims 1 and 10.

For the foregoing reasons, the combination of Boucher, Elzur, and Adams cannot render claims 1 and 10 obvious. Since claims 2-6, 8-9, 21, 22, 28, and 30 depend from allowable claim 1 and claims 24-27 and 30 depend from allowable claim 10, these claims are also in condition for allowance.

In view of these clear distinctions, reconsideration and allowance of all the claims is respectfully requested.

Respectfully submitted,



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